

USSR

GUBANOV, V. I., YEFIMOV, A. K., KALACHENKO, A. A.

"Algorithm and Program for Pattern Recognition with Automatic Clarification of Objects"

Mat. metody. i geol. [Mathematical Methods in Geology -- Collection of Works], No 2, Alma-Ata, 1971, pp 197-207 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973, Abstract No 8 V689)

Translation: An algorithm is described, calling for recognition of patterns on the basis of search for the most frequently encountered combinations of components, reflecting the greatest probability of membership of the object being recognized in a given category. The initial information for learning might be chemical analysis of rocks, different qualitative and quantitative characteristics of rocks, ores, types of deposits and ore manifestations, characteristics and estimates made during geological survey work. Learning is performed with matrices including 39 objects with 13 components, each of which yields three characteristics. The characteristics are defined as functions of the qualitative or quantitative aspects of the components. For example, if silicon oxide is a component, the maximum and minimum values are taken as two learning data, while their difference is divided into three

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GUBANOV, V. I., et al., Mat. metody. i geol., No 2, Alma-Ata, 1971, pp 197-207

parts, which are then used as determining characteristics in the production of the learning matrix. A one indicates the interval within which the content of the element of the object to be recognized falls. Solution of the problem consists in running through all combinations of characteristics in units of three elements. The 80 most frequently encountered characteristics are then determined, on the basis of both frequency and weight.

2/2

- 88 -

AA0051797

UR 0482

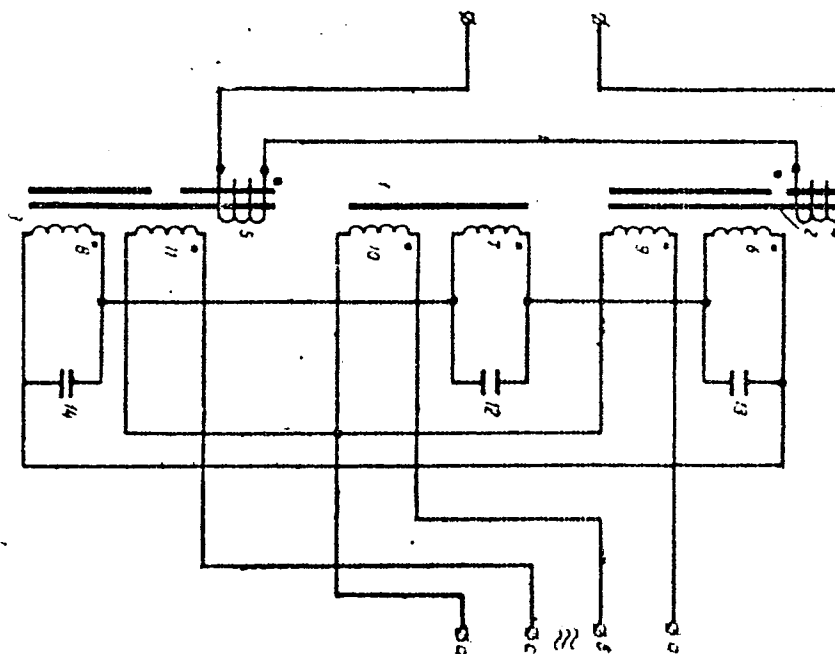
Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/70

242266 STABILISED STATIC CONVERTER to convert single-phase voltage into three-phase, of smaller dimensions and simpler design than most converters and in which the supply windings 4 and 5 are switched in opposite series with each other and connected to a single-phase circuit; the third compensation winding 7 and the third operating winding 10 are mounted on the ferrite core 1 of the phase-shifting unit. 10.5.67. as 1155024/24-7. V.V.GUBANOV et al. (9.9.69.) Bul.15/25.4.69. Class 21d². Int.Cl. H02n, H02l.

$\frac{1}{2}$ AUTHORS: Gubanov, V. V.; Ledin, A. A.;
Mozzhukhin, A. D.

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AA0051797



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USSR

UDC 621.314.57(088.8)

GUBANOV, V.V., LEDIN, A.A., PROKHOROV, V.V., ROZANOV, YU.M., RYABOV, S.F.

"Converter of D-C Voltage Into Stabilized A-C"

USSR Author's Certificate No 248789, Filed 27 May 68, Published 25 Jan 70 (From
RZh--Elektronika i yeye primeneniye, No 10, October 1970, Abstract No 103340P)

Translation: The invention pertains to a converter of d-c voltage into stabilized a-c, which contains a parallel thyristor inverter, a block for preliminary magnetization, and a ferroresonance transformer--regulator, the magnetic circuit of which has a nonlinear section. The secondary winding is placed on this section, and connected in series with the choke of a higher harmonic filter and with the linear part. The primary and compensation windings simultaneously include the linear and nonlinear sections of the magnetic circuit. With the object of reducing the weight of the converter, it is proposed to make the linear section of the magnetic circuit in the form of two identical cores with a gap, the over-all cross section of which is equal to the designed cross section of the linear part, and the choke of a filter with two identical windings is connected in counter series. Each of the windings is placed on one of the cores of the linear section of the magnetic circuit. With the object of increasing the reliability of operation and reducing the transition time, it is proposed to place on the nonlinear section a winding of the magnetic line of the block for preliminary magnetization. 2 ill. I.R.
1/1

Acc. Nr.: AN0045463

Ref. Code: UB9003

JPRS 50162

G

Okha "Orbita" Station Begins Operation

(Complete translation: "Sakhalin 'Orbita'," by Ye. Gubanov; Moscow, Izvestiya, 28 February 1970, p 6)

The blue screen [television] appeared in the southern latitudes of Sakhalin ten years ago. Since that time it has "shifted" upward along the island's meridian. An "Orbita" station has been put into service in Sakhalin's northernmost city of Okha. The State Commission has signed an act which officially opens the station. Petroleum workers and prospectors can now watch television broadcasts from Moscow. [4]

Reel/Frame
19780409

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USSR

UDC 620.172.251.1

KURKIN, S. A., FEMOROV, V. YE. and GUEANOV, YU. N.

"A Device for Testing Metal Foil and Welded Junctions under Static and Small-Cycle Biaxial Stretch under Low-Temperature Conditions"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Mashinostroyeniye, No 4, 1973, pp 171-175

Abstract: A device for testing the buckling of flat or rolled metal foils, welded junctions, cylindrical vessels and pipes under conditions of biaxial stretch at low temperatures is described, which has a specified position for the power source in a special chamber, both cooled by the introduction of liquid air from a gas-cooling engine. Buckling is produced by static or small-cycle loading, by introducing a liquid under the sample. At the present time tests have been carried out to -60°C , using diesel fuel mark DA as the working liquid. However the cooling curve of the instrument indicates the possibility of lower temperature measurement.

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Polymers and Polymerization

USSR

UDC 541(64+15).654

MAKHLIS, F. A., GUBANOVA, G. G., and POPOVA, V. M., Scientific Research Institute of the Rubber Industry

"Changes in the Structure of Butadiene-Nitrile and Fluororubbers Upon Gamma-Irradiation"

Moscow, Vysokomolekulyarnyye Soyedineniya, Vol 15, (A), No 9, Sep 73, pp 1995-2002

Abstract: The effects were studied of the temperature of irradiation with gamma-rays from ^{60}Co and of the absorbed radiation dose on the structurization and destruction of butadiene-acrylonitrile rubbers (BNK) with an acrylonitrile content ranging from up to 20 to up to 50% (SKN 18, 26, 40, and 50) and also of fluororubber SKF-26 (a copolymer of vinylidene fluoride with hexafluoropropylene). The rubber samples were irradiated in the vulcanized and unvulcanized and strained and relaxed states. Irradiation of BNK and their vulcanizates with low doses resulted in scission of the nodes of the network and also of the principal polymer chains, while irradiation with higher doses resulted principally in destruction of the nodes of the network. Irradiation of SKF-26 resulted in scission of the principal chains, which was accompanied by structurization consisting mainly of the formation

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USSR

MAKHLIS, F. A., et al., Vysokomolekulyarnyye Soyedineniya, Vol 15, No 9,
Sep 73, pp 1995-2002

of trifunctional nodes. The rate of destruction of stressed and vulcanized
samples was higher than that of samples in a relaxed state.

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GUBANOVA, I. I.

1. Author's Name, Initials	2. Government Agency No.	3. Date and Page Count No.
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13. Author's Name and Address	14. Country of Origin	15. Publishing Organization Code
<p>16. Abstract: Summary of the document, including the title, author's name, and a brief description of the content. The abstract should be written in a concise and factual manner, using the following format:</p> <p>The first part examines the stability of equilibrium shapes of elastic systems. Stability is then in the case of similar equilibrium shapes. The effect of equilibrium is discussed. The error rate by Euler's method is given. The second part deals with problems of oscillations of linear systems. It includes systems with a functional number of degrees of freedom. As well as free oscillations of a mass-spring in the field of periodic forces. Four methods of solving the problem of the motion of periodic functions are presented. The known asymptotic methods of solution and used as an example of asymptotic oscillations. The known asymptotic methods of solution and used as an example of asymptotic oscillations. The known asymptotic methods of solution and used as an example of asymptotic oscillations.</p>		
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USSR

GUBANOVA, O. I., LUNEV, V. V., PLASTININA, L. N., MOSCOW

"On Central Separation Zone in a Supersonic Underexpanded Jet Impinging Against a Wall"

Moscow, Izvestiya Akademii Nauk SSSR, Mekhanika Zhidkosti i Gaza, No. 2, March-April, 1971, pp 135-138

Abstract: An experimental investigation of the interaction between the supersonic underexpanded jet and a wall normal to its axis has been conducted.

A central separation zone occurs when the distance from the nozzle to the wall is six times the nozzle exit radius. The pressure in this zone is lower than in the surrounding one.

USSR

GUBANOVA, O.I., et al, Izvestiya Akademii Nauk SSR, Mekhanika Zhidkosti i Gaza, No 2, March-April 1971, pp 135-138

The experiments were conducted with the Mach number of 2.0 and the nozzle exit pressure equal to 2.85 times the ambient pressure.

Photographs showing the flow patterns and the shock waves are presented, as well as the curves of the pressure distribution along the plate.

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USSR

UDC 621.314.61(088.8)

GAPCHENKO, L. M., TUZ, Yu. M., SERPILIN, K. L., and GUBAR', V. I. [Kiyev. politekhn. in-t -- Kiev Polytechnical Institute]

"Device for Conversion of A-C Voltage into D-C"

USSR Author's Certificate No 269295, filed 25 Nov 68, published 16 July 70 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5B462P)

Translation: A device is patented for conversion of a-c voltage into d-c. The device contains a wide-band a-c amplifier, a precision attenuator, a commutator, a detector, an error signal amplifier, a synchronous commutator, and a control voltage generator. With the object of increasing the speed of response and decreasing the frequency of error, the device is provided with a supplementary detector, a supplementary wide-band amplifier, and two memory devices, during which the output of the additional detector is connected opposite to the output of the principal detector, the output of the memory devices is connected to the input of the control circuit of the principal and supplementary amplifiers, and the input of the memory devices is connected to the output terminals of the synchronous commutator.

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USSR

UDC: 621.317.726

BESPALOV, V. K., BORISENKO, N. A., GUEAR', V. I.

"Wide-Band Converters of Effective Values"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmareniiam. T. 3 (Re-
ports of the All-Union Scientific and Technical Conference on Radio Engineer-
ing Measurements. Vol. 3), Novosibirsk, 1970, pp 77-79 (from RZh-Radiotekh-
nika, No 1, Jan 71, Abstract No 1A308)

Translation: The authors discuss problems of using thermoconverters for constructing effective-value voltmeters, increasing their speed, converter errors, etc. In addition, consideration is given to the use of other converters for the same purposes, e. g. with metallic heated resistors or with an electrostatic voltmeter. It is pointed out that a voltmeter is presently being developed on the basis of differentially connected thermoconverters. Brief technical characteristics are given. Bibliography of five titles. E. L.

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USSR

UDC: 621.374

GURARCHUK, V. N.

"Amplitude Selector for Linear Transistorized Devices"

Moscow, Pribery i tekhnika eksperimenta, No 6, 1972, pp 94-96

Abstract: This paper is a description of an amplitude selector for single-polar pulses in the microsecond range with a substantially reduced parasitic signal level. The circuit has been used for selection of pulses whose amplitudes were less than a threshold level; it can also be used for protecting linear transistorized devices from overloading by undesirable pulses. The amplitude characteristic of the instrument is plotted and the principal schematic of the selector circuit reproduced. The operation of the circuit is explained and instructions are given for the selection of best results. A maximum input signal of 10V can be handled.

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USSR

UDC:621.313.522.11

GUBAREV, A. V., NOSOV, I. G.

"Selection of Parameters for an Open-Cycle Heat and Electric Power Plant with a Faraday-Type MHD Generator"

Teplotekhn. Probl. Pryamogo Preobrazovaniya Energii [Heat Engineering Problem of the Direct Conversion of Energy -- Collection of Works], No 4, Kiev, Nauk. Dumka Press, 1973, pp 25-35 (Translated from Referativnyy Zhurnal Turbostroyeniye, No 11, 1973, Abstract No 11.49.152)

Translation: Results are presented from optimization of the parameters of an MHD electric power plant with a steam turbine on the basis of the minimum calculated expenditures. Studies for an MHD power plant to utilize the combustion products of type ASH pole in air with added K_2CO_3 were performed as applicable to a Faraday-type MHD generator with constant parameters of magnetic induction B , gas velocity V and electric load factor n over the length of the channel, considering end effects. The magnetic system is superconducting, based on Nb_3Sn stabilized with copper. The influence of end effects on the efficiency of the station is particularly significant as B is increased. Based on calculations, the optimal parameters of the cycle of the MHD power plant are determined: pressure in the combustion chamber 10.8 bar, $B=6$ T, air temperature 1500° K, which

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USSR

GUBAREV, A. V., NOSOV, I. G., Teplotekhn. Probl. Pryamogo Preobrazovaniya Energii, No 4, Kiev, Nauk. Dumka Press, 1973, pp 25-33

with the gas flow velocity used $V=800$ m/sec, $n=0.8$, end loss factor 0.2, provides a gross power of the image degenerator and the steam turbine of 679.8 and 431.7 Mw respectively and an electrical capacity of the station of 884.4 Mw with $\eta_{st}=50.6$. If the superconductor costs 200 rubles per kg, expenditures for fuel represent 48.8%, the turbine 18.3%, the superconducting magnet 11%, the air heater 5.9%, the inverter 5.8% of total costs, and the cost of 1 kw-hr of electric power is 0.672 kopecks (8% lower than for an ordinary heat and electric power plant). M. I. Osipov

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USSR

UDC 621.396.6-181.5

GUBAREV, L. M., DULIN, V. N., STRUKOV, A. Z.

"Homogeneous Computer Media and Problems of Microelectronic Realization"

Kiev, IVUZ Radioelektronika, Vol 14, No 11, Nov 71, pp 1265-1281

Abstract: The authors discuss the possibilities of increasing the reliability, stability and flexibility of computer devices with the use of homogeneous computer facilities. A homogeneous computer facility is defined as a regular structure consisting of a set of identical interconnected elements -- functional cells which are geometrically located precisely in space -- and capable of performing a given logical function after adjustment of the elements. A functional cell is defined in turn as an automaton which can be adjusted to perform some logic function. Problems of constructing homogeneous computer facilities are discussed as well as the structure of their functional cells and methods of controlling homogeneous facilities. The possibilities of microelectronic realization of homogeneous computer facilities on the basis of potential and radio pulse elements are evaluated. Examples are given of construc-

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USSR

GUBAREV, L. M. et al., IVUZ Radioelektronika, Vol 14, No 11, Nov 71,
pp 1265-1281

tion of homogeneous computer facilities based on metal-oxide-semiconductor structures, bipolar transistors, and also the results of modeling such facilities on the basis of Soviet "TROPA-3" microcircuits. Facilities based on radio pulse elements have a power drain 1-2 orders less than that of facilities based on potential elements, and also realize high speeds reaching 500-700 MHz with respect to the cadence frequency. Twelve figures, bibliography of twenty-three titles.

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USSR

UDC: 577.4

SHEKHOVTSOV, B. G. and GUBAREV, S. I.

"Search for a Permissible Solution to a Mathematical Programming Problem With Linear Limits"

Priory i sistemy avtomatiki. Resp. mezhved. temat. nauch.-tekhn. sb. (Automation Instruments and Systems, Republic Interdepartmental Scientific-Technical Themes--collection of works) No 22, 1972, pp 55-59 (from RZh--Matematika, No 7, 1972, Abstract No 7V497)

Translation: An algorithm is considered for finding the permissible solution of a problem in mathematical programming whose specified area is determined by a system of linear equations and a double-ended limitation of the variables. Authors' abstract

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USSR

UDC 577.4

SHEKHOVTSOV, B. G., GUREV, S. I.

"Finding the Admissible Solution of the Problem of Mathematical Programming with Linear Restrictions"

Prihory i sistemy avtomatiki. Resp. mezhd. temat. nauch.-tekhn. sb. (Instruments and Automation Systems. Republic Interdepartmental Thematic Scientific and Technical Collection), 1972, vyp. 21, pp 55-59 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V497)

Translation: A study was made of the algorithm for finding the admissible solution of the problem of mathematical programming the region of assignment of which is defined by a system of linear equalities and two-way restriction of the variables.

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UDC 577.4

USSR

YEVDOKIMOV, A. G., SHEKHOVTSOV, B. G., ~~GUBAREV, S. I.~~

"A Problem of Mathematical Programming for Linear Restrictions"

Pribory i sistemy avtomatiki. Resp. mezhved. temat. nauch.-tekhn. sb. (In-
struments and Automation Systems. Republic Interdepartmental Thematic Scien-
tific and Technical Collection), 1972, vyp. 21, pp 51-55 (from RZh-Libernetika,
No 7, Jul 72, Abstract No 7V496)

Translation: A study was made of the necessary and sufficient conditions for the local minimum points of the problem of mathematical programming with linear restrictions. Analytical expressions of the criteria for selecting the direction and magnitude of the admissible stepsize of the differential algorithm for its solution are presented.

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USSR

UDC: 681.3:519.2

GUBAREV, V. V., Novosibirsk Electrical Engineering Institute

"A Random Process Analyzer"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 5, Feb 73, Author's Certificate No 364944, Division G, filed 15 Feb 70, published 28 Dec 72, pp 141-142

Translation: This Author's Certificate introduces a random process analyzer which contains a memory decoder and a synchronizer. The first output of the synchronizer is connected to a first analog-digital converter, the second synchronizer output is connected to a shift register both directly and through a second analog-digital converter, and a third output of the synchronizer is connected to a memory commutator and multiplier and to a multichannel commutator. Other inputs of this multichannel commutator are connected to the shift register, and the multiplier output is connected to the memory commutator. As a distinguishing feature of the patent, in order to find estimates of two-dimensional distribution laws, the analyzer also contains a decoder with output commutator, an additional shift register commutator, two diodes, a two-position switch, and a scaling circuit. The

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USSR

GUBAREV, V. V., USSR Author's Certificate No 364944

output of the scaling circuit is connected through the first diode; the two-position switch and the second diode, to the input of the memory decoder. The first input of the scaling circuit is connected to the corresponding output of the synchronizer. The second input of the scaling circuit is connected to the input of the first analog-digital converter, whose output is connected to the second diode and to the corresponding input of the multiplier. The decoder input is connected to the output of the additional shift register commutator. The decoder output commutator is connected at the output to the information input of the first diode. The controlling inputs of the decoder output commutator and the additional shift register commutator are connected to the corresponding inputs of the synchronizer. The patent also covers a modification of this analyzer distinguished by the fact that the number of values of the argument of delay of two-dimensional distribution laws is increased by having the scaling circuit based on a controllable end-around pulse divider and shifter.

2/2

- 4 -

Acc. Nr.: AN 0036654

Ref. Code: UR 9007

AUTHOR-- GUBAREV, V.

TITLE-- A SALVO FIRED BY A DESTROYER

NEWSPAPER-- KOMSOMOL, SKAYA PRAVDA, APRIL 17, 1970, P 4, COLS 2-5

ABSTRACT-- ACCORDING TO THE ARTICLE, THE FOLLOWING SHIPS ARE
TAKING PART IN THE "OKEAN" WAR GAMES IN THE PACIFIC OCEAN-- THE
"ADMIRAL FOKIN", A ROCKET CRUISER - THE "ALEKSANDR SUVOROV", A
CRUISER - THE "DAL, NEVOSTOCHNYY KOMSOMOLETS"; AND THE
"BLESTYASHCHIY", DESTROYERS.

Reel/Frame
19721525

AN0036655-

UR 9007

G

AUTHOR-- GUBAREV, V.

TITLE-- UNDER THE OCEAN, S WING

NEWSPAPER-- KOMSOMOL, SKAYA PRAVDA, APRIL 19, 1970, P 4, COLS 3-8

ABSTRACT-- THE ARTICLE MENTIONS THE OPERATION OF DROPPING SUBMARINE
DETECTING BUOYS BY A FLYING BOAT DURING THE "OKEAN" NAVAL EXERCISE
IN THE ARCTIC OCEAN. BUOYS DROPPED IN A CERTAIN PATTERN FORM AN
"ACOUSTICAL" ANTISUBMARINE BARRIER AND RADIO THE FLYING BOAT WHEN
ENEMY SUBMARINES ARE TRYING TO PENETRATE IT.

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19721526

Acc. Nr.: A N0036653

Ref. Code: UR 9007

G

AUTHOR-- GUBAREV, V.

TITLE-- A RADIO FROM THE FLEET

NEWSPAPER-- KOMSOMOL, SKAYA PRAVDA, APRIL 15, 1970, P 2, COLS 1-6

ABSTRACT-- ONE OF THE SHIPS THAT IS TAKING PART IN THE "OKEAN"
WAR GAMES IN THE PACIFIC OCEAN IS A ROCKET CRUISER, THE "GORDYY".

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Reel/Frame
19721524

USSR

UDC: 620.10

GUBAREV, V. Ya., Engineer, KOZLOV, N. P., Candidate of Technical Sciences, Docent, LESKOV, L. V., Doctor of Physical and Mathematical Sciences, Professor, PROTASOV, Yu. S., Graduate Student, Moscow Higher Technical Academy imeni N. E. Bauman

"On Measurement of Small Deflections"

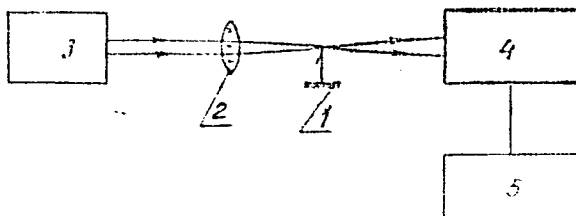
Moscow, Izv. VUZov: Mashinostroyeniye, No 9, 1972, pp 190-191

Abstract: The paper describes a procedure and experimental equipment for measuring displacements of the order of 10^{-3} mm at frequencies of the order of hundreds of kHz. The measurement installation is based on the Töpler schlieren method as illustrated in the diagram. Sharp-edged plate 1 is securely fastened to the article at the point to be measured in the plane of deflection. Lens 2 focuses a beam from gas laser 3 onto the sharp edge of this plate. The light beam is then allowed to fall on the cathode of photomultiplier 4 whose output signal is registered by oscilloscope or digital recorder 5.

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USSR

GUBAREV, V. Ya. et al., Izv. VUZov: Mashinostroyeniye, No 9, 1972, pp
190-191



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1/2 018 UNCLASSIFIED PROCESSING DATE--090CT70
TITLE--ANALYSIS OF THE BATHMOTROPIC EFFECT OF PROMETHAZINE, DIPRASINE AND
BENEDRYL, DIMEDROL -U-
AUTHOR-(02)-GUBAREV, YE.A., BUTTSEVA, T.A.

COUNTRY OF INFO--USSR

SOURCE--FARMAKOL. TOKSIKOL. (MOSCOW) 1970, 33(1), 35-7

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--FRUG, MYOCARDIUM, CHOLINERGIC, ADRENERGIC DRUG, HEART,
ANTIHISTAMINIC DRUG

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/1696

STEP NO--UR/0390/70/033/001/0035/0037

CIRC ACCESSION NO--AP0103462

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0103462

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DIPRASINE AND DIMEDROL
ADMINISTERED S.C. AT 5, 10, AND 25.MG PER KG TO FROGS INCREASED THE
EXCITABILITY THRESHOLD OF THE MYOCARDIUM TO ELEC. STIMULI IN SITU. THE
EFFECT OF THESE COMPODS. WAS BY ACTION ON BOTH THE ADRENERGIC AND
CHOLINERGIC INNERVATION OF THE HEART AND ON THE NEUROMUSCULAR STRUCTURES
OF THE MYOCARDIUM. FACILITY: KURSK. MED. INST., KURSK, USSR.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--COLLATERAL CORONARY BLOOD FLOW FOLLOWING ADMINISTRATION OF
HOMFOTHIN COMBINED WITH ANTIHISTAMINIC DRUGS -U-
AUTHOR-(03)-GUBAREV, YE.A., PICHUGIN, V.V., MITCHENKO, P.P.
COUNTRY OF INFO--USSR
SOURCE--VRACHEBNOYE DELO, 1970, NR 6, PP 25-26
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--HEART, BLOOD CIRCULATION, DOG, DRUG EFFECT, ANTIHISTAMINIC
DRUG
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FAME--3002/0339 STEP NO--UR/0475/70/000/005/0025/0026
CIRC ACCESSION NO--AP0127920
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0127920

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ACUTE EXPERIMENTS ON 34 DOGS INDICATE THAT COMBINATION OF THE CARDIAC GLYCOSIDE HOMOFOETHIN WITH DIMEDROL IMPROVES THE COLLATERAL CORONARY BLOOD CIRCULATION, WHEREAS THE COMBINATION OF THIS GLYCOSIDE WITH DIPRAZINE WEAKENS THE CORONARODILATING EFFECT OF HOMOFOETHIN. FACILITY: KAFEDRA FARMAKOLOGII KURSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

USSR

UDC 632.95.028

BURYY, V. S., GOSHKHA, A. T., KUDEVICH, S. N., SANNIKOV, G. P., and GUEAREVA, K. P., All Union Scientific Research Institute of Hygiene and Toxicology of Pesticides, Polymers, and Plastic Masses, and Northern Scientific Research Institute of the Hydrotechnology and Development

"Residues of Herbicides Used in Clearance of Canals Found in Outside Environment"

Moscow, Khimiya, s Sel'skom Khozyaystve, Vol 10, No 9 (119), 1973, pp 48-54

Abstract: Canal characteristics are reported and the effectiveness of granulated herbicides monuron, diuron, and symazine against water plants. . . The residue of these preparations was studied in water and in soil at various distances from the site of introduction, as well as in plants and fish. It has been established that monuron is the most promising herbicide for the utilization in the zone of non-black soil considering the aspects of the sanitation-hygienic evaluation and the phytotoxic properties.

1/1

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USSR

UDC 541.13

KRYUCHENKOV, V. V., GUBAREVA, L. A., and MUSINOVA, V. S.

"Change in the Electrical Resistance and Determination of Electrical Conductivity by Ion Exchange Membranes Expanded in Water"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 46, Vyp 4, 1972, pp 936-940

Abstract: The conductivity of expanded ion exchange membranes can be approximated by the equation

$$\gamma, \text{ohm}^{-1} \text{cm}^{-1} = l/RS$$

where l is the distance between the electrodes, R is the measurable resistance of the membrane, and S is the surface area of the electrode. Two disadvantages are that this method assumes ideal conditions and that γ is a function of the resistance between the membrane and the electrodes. An instrument was designed such that the electrodes were in contact with the membrane. Equation (1) can be modified to the form

$$\gamma = l/(R-R_k)S = l/R_m S$$

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USSR

KRYUCHENKOV, V. V., GUBAREVA, L. A., and MUSINOVA, V. S., Zhurnal Fizicheskoy Kimii, Vol 46, Vyp 4, 1972, pp 936-940

where R_k is the resistance of the electrode-membrane contact and R_m is the actual resistance of the membrane. Schematics of the instrument are shown as are plots of the change in electrical resistance and thickness of two heterogeneous membranes of the KhK-14 type - one reinforced and the other unreinforced - as a function of electron potential.

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1/2 012 UNCLASSIFIED PROCESSIN: DATE--16OCT70
TITLE--MAGNETOOPTICAL METHOD FOR STUDYING PHOSPHORIC ACIDS -U-

AUTHOR--(05)--BORISOV, V.M., MASLENNIKOV, B.M., SANDYLOV, V.A., GUBAREVA,
V.N., KONANYKHINA, L.N.
COUNTRY OF INFO--USSR

SOURCE--KHIM. PROM. MOSCOW 1970, 46(3), 190-1

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHOSPHORIC ACID, MAGNETOOPTIC EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/0886

STEP NO--UR/0064/70/046/003/0190/0191

CIRC ACCESSION NO--AP0118055

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118055

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CHANGE IN VERDET'S CONST. DELTA DELTA OF AQ. POLYPHOSPHORIC ACID SOLNS. WAS TRACED (AS A FUNCTION OF P SUB2 O SUB5 CONCEN.) AT 35DEGREES AND A WAVELENGTH OF 500 NM; DELTA DELTA INCREASED FROM 10 TIMES 10 PRIME NEGATIVES AND THEN DECREASED TO 25 TIMES 10 PRIME NEGATIVES MIN-CM SEC WHEN THE P SUB2 O SUB5 CONCEN. WAS INCREASED FROM 10 TO 40 TO 70 WT. PERCENT, RESP., AND INCREASED CONTINUOUSLY AT HIGHER P SUB2 O SUB5 CONCNS.

UNCLASSIFIED

USSR

UDC 616-036.882-08:612.08

SKURATOV'S'KIY, A. S., and GUBATYUK, P. V., Department of Hypoxia Conditions, Institute of Physiology imeni O. O. Bogomolets, Ukrainian SSR Academy of Sciences, Kiev

"Artificial Respiration Device in a Pressure Chamber at Elevated Gas Pressure in the Reanimation of an Organism Dead as a Result of Rapid Decompression"

Kiev, Fiziologichniy Zhurnal, Vol 17, No 2, Mar/Apr 71, pp 276-277

Translation: In developing methods of reanimating an organism which has died as a result of rapid decompression, the complexity of reanimation of an organism in a state of clinical death of this type is manifested by the fact that as a result of the rapid drop of atmospheric pressure, along with the development of acute hypoxia of the entire organism, large numbers of gas emboli are formed in the tissues and blood vessels; these emboli after the reanimation may block the supply of blood to vitally important organs (brain stem, coronary blood vessels, and others) causing the death of the organism.

To alleviate the hypoxia and dissolve the air emboli, all reanimation measures were applied by us in a pressure chamber under conditions of elevated air

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SKURATOVSKIY, A. S., and GUBATYUK, P. V., Fiziologichnyi Zhurnal, Vol 17, No 2, Mar/Apr 71, pp 276-277

pressure (2-2.5 absolute atmospheres), with the air gradually being replaced by pure oxygen.

A special device for the administration of artificial respiration named by us "Automatic Regulator of Artificial Respiration" was designed. It consists of a cuff attached to the chest of the animal prior to its being placed in the chamber, and an electromechanical regulator of inspiration and expiration. A rubber cuff of a Riva-Rochi type of apparatus covered with canvas is the base. The top of the cuff is secured by a metal strap in order that the pressure created by the air can act on the chest of the animal, inducing artificial respiration. Schematic drawings of the electromechanical regulator are presented in illustrations 1 and 2.

Air from the cylinder (4) is supplied to the cuff (1) through a T-joint (5); one of the latter's outlets passes through the cover of the chamber (6) and is connected with the rubber hose (8) of the cuff. The filling of the cuff with air and expelling of the air from the cuff is accomplished with the help of two SKR-2 solenoid valves which alternately are switched on and off

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SKURATOV'S'KIY, A. S., and GUBATYUK, P. V., Fiziologichnyi Zhurnal, Vol 17, No 2, Mar/Apr 71, pp 276-277

by an electromechanical timing relay prepared from an SD-2 motor (10) and RPT-100 relay. (9). An organic glass disk is mounted on the shaft of the motor; attached to it is a brass wheel (11) with cut out sections. The contact brushes glide over the wheel when it is in rotation. One of the brushes glides over the rim of the brass wheel, being in constant contact with the brass disk. The second brush, shifted to the center of the wheel, breaks its contact with the brass disk in the areas of the cut out sections, thereby closing the electric circuit of which the RPT-100 relay is a component.

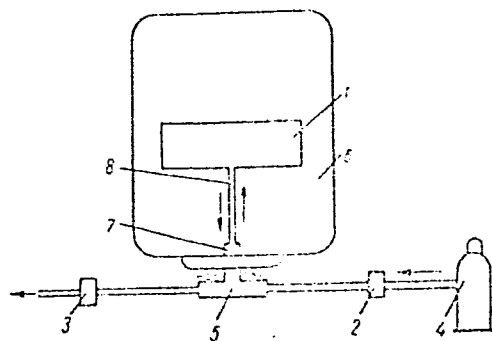
To begin with, the relay when switched on automatically closes the circuit of valve (2). The valve opens and the air from the cylinder (4) passes through outlet (7) of T-joint (5) filling the cuff. The cuff expands and exerting pressure on the chest of the animal, induces expiration. The relay is then switched off activating the circuit of valve (2) and closing the circuit of valve (3). Valve (3) opens, allowing passage of the air expelled from the cuff. The cuff collapses, the chest of the animal expands and

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SKURATOV'S'KIY, A. S., and GUBATYUK, P. V., Fiziologichniy Zhurnal, Vol 17, No 2, Mar/Apr 71, pp 276-277

induces inspiration. The essential filling of the cuff with air is regulated with the help of the cylinder reducer and changes in the size of the air clearance gaps of the solenoid valves. The frequency with which pressure is exerted on the chest of the animal is regulated by the number of cut out sections on the brass disk which is attached to the motor shaft.



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Illustration 1. Mechanical scheme of the device for artificial respiration in a pressure chamber

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SKURATOVSKIY, A. S., and GUBATYUK, P. V., Fiziologicheskii Zhurnal, Vol 17,
No 2, Mar/Apr 71, pp 276-277

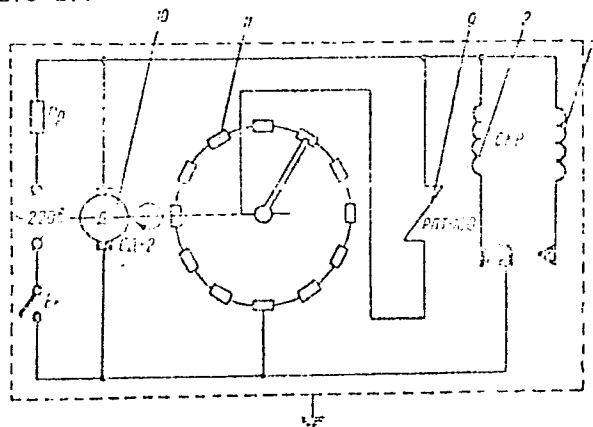


Illustration 2. The principal electric scheme of the automatic regulator
of artificial respiration

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USSR

SKURATOV'S'KIY, A. S., and GUBATYUK, P. V., Fiziologichnyi Zhurnal, Vol 17, No 2, Mar/Apr 71, pp 276-277

The device described was tested by us in a number of instances and all cases produced the desired results. It may be said, therefore, that the device is characterized by simplicity, and what is important in reanimation, by its dependability when in operation. The entire device, with the exception of the respiration cuff, is outside of the chamber, making safe its operation in the chamber under conditions of elevated oxygen pressure. The device can be recommended for the administration of artificial respiration when necessary in large and small size chambers under conditions of elevated gas pressure within the chamber.

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USSR

UDC:629.7.036.3.001.4

GRITSENKO, V.I., GUBAYDULIN, N.L. and KLIMENKO, YU. N.

"Thermobarometric Installation for Testing Gas Turbine Engines"

Omsk, Sb. Vopr. Glubokago Okhlazhdeniya (Symposium on Deep Cooling Problems), 1972, pp 56-58 (from Referativnyy Zhurnal-Aviatsionnyye i Raketnyye Dvigateli, 1973, Abstract No 3.34.92)

Translation: A scheme of a thermobarometric installation for testing gas turbine engines and systems is presented. The installation consists of a chamber for heating the air supplied by a compressor, a heat exchanger, an ejector sucking gases from the cell and the turboexpander made out of a small size gas turbine. The purpose of the turboexpander is to cool the air for tests simulating high-altitude conditions. Test results of the installation are given. 2 illustrations. 3 references. Authors resume.

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USSR

UDC 547.26'118

GUBAYDULLIN, M. G., and KOVALEVA, L. M.

"Mixed Anhydrides of Sulfonic and Phosphorous Acids. I. Synthesis and Investigation of Properties"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 12, Dec 73, pp 2660-2663

Abstract: Mixed anhydrides of the sulfonic and phosphorous acids have been obtained by the reaction of the silver salts of sulfonic acids with dialkylphosphorous acid chlorides. The reactions of thermal decomposition, hydrolysis and alcoholysis of the product obtained have been studied. Condensation products have been obtained of the title compounds with carbonyl compounds.

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USSR

UDC 547.26'118

GUBAYDULLIN, M. G., PILYAGINA, V. V.

"Synthesis of α -Hydroxyalkylphosphinic Acid Sulfonamidoesters"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 9, Sep 70,
pp 1966-1968

Abstract: Alkyl(aryl)sulfonamidoalkylphosphorous acids were condensed with select carbonyl compounds (chloral, benzaldehyde). The reaction with chloral was quite energetic with heat evolution, but to complete it, the reaction mixture had to be heated. The N-alkyl(aryl)-N-alkyl-(aryl)sulfonamidoesters of α -hydroxy- β,β,β -trichloroethylphosphinic acid were obtained in 70-80% yields; their IR spectra showed absorption bands at 3300-3200 (OH), 1250 (P=O), 1150 and 1360 cm^{-1} (SO_2 -N). The ease with which the reaction occurs is due to strong polarization of the carbonyl group under the influence of three electronegative chlorine atoms. Sulfonamidoalkylphosphorous acids are condensed with benzaldehyde forming derivatives of α -hydroxybenzylphosphinic acid; their IR spectra showing bands at 3300-3200 (OH) and 1230-1210 cm^{-1} (P=O).

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USSR

UDC 547.26.118

GUBAYDULLIN, M. G., PILYAGINA, V. V.

"Synthesis of Sulfoamidoalkylphosphorous Acids and Sulfoamidoesters of Phosphinic Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 9, Sep 70,
pp 1962-1966

Abstract: To a solution of dichloroanhydride of ethylphosphorous acid in anhydrous benzene. The sodium salt of the propylamide of methanesulfonic acid is added with stirring and cooling. The reaction mixture is stirred for another hour at cold water temperature and then one hour at 80°, filtered, the solvent is evaporated and N-propyl-N-methanesulfoamidoethylphosphorous acid chloride is distilled: b.p. 118-120/2mm n_D^{20} 1.4750, d_4^{20} 1.2210. This product is hydrolyzed to the free acid (I) with water and triethylamine. The sodium salt of (I) with methyl iodide yields N-propyl-N-methanesulfonamide of the methylphosphinic acid ethyl ester. In another reaction the dichloroanhydride of methylphosphinic acid was reacted with the sodium salt of methanesulfonic acid propylamide
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GUBAYDULLIN, M. G., et al, Zhurnal Obshchey Khimii, Vol 40, No 9, Sep 70, pp 1962-1966

in absolute benzene, followed by dropwise addition of absolute alcohol and anhydrous triethylamine, yielding N-propyl-N-methanesulfonamide of methylphosphinic ethyl ester, b.p. 150-155°/2mm, n_D^{20} 1.4568, d_4^{20} 1.1998. Analogously, N-phenyl-N-benzenesulfonamide of the above ester was obtained, m.p. 92-93°. N-Propyl-N-methanesulfonamide of the ethyl ester of methylphosphinic acid was obtained from the Arbuzov reaction by heating N-propyl-N-methanesulfonamide of the diethylphosphorous acid and methyl iodide for 6 hrs in a sealed tube at 150-160°. The product boiled at 178-180°/3-4mm, d_4^{20} 1.1998, n_D^{20} 1.4585. Analogously, the N-methyl-N-benzenesulfonamide- (d_4^{20} 1.2240 n_D^{20} 1.5140) and N-phenyl-N-benzenesulfonamide of the butyl ester of methylphosphinic acid were obtained.

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USSR

UDC 547.26'118

GUBAYDULLIN, M. G.

"Reaction of Mixed Amides of Sulfonic and Phosphorous Acids With Carboxylic Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 8, Aug 70, p 1906

Abstract: It was shown that the reaction of mixed amides of sulfonic and phosphorous acids with carboxylic acid at 170-175° gives esters of carboxylic acid only.

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USSR

UDC 541.951.3:547.1'118:541.62

GUBAYDULLIN, R. N., YEGANOV, V. F., ARSHINOVA, R. P., and MUKMENEV, E. T.,
Institute of Organic and Physical Chemistry Imeni A. Ye. Arbuzov Acad. Sc.
USSR, and Chemical Institute Imeni A. M. Butlerov, Kazan' State University
Imeni V. I. Ul'yanov-Lenin

"Formation of Isomeric Diphenylpentaerythritol Diphosphites in the Transesteri-
fication of Triphenyl Phosphite With Pentaerythritol"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 5, May 73, pp
1116-1118

Abstract: Using thin layer chromatography, it was shown that the transesterifi-
cation of triphenyl phosphite with pentaerythritol at 100-120°/10 mm yields
3,9-diphenoxy-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5,5]undecane, m.p. 118-120°C
and α -(2,6,7-trioxa-1-phosphabicyclo[2,2,2]octyl-4)-methyldiphenyl phosphite,
m.p. 82-84°C. These structures were identified by parallel syntheses.

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1/2 016 UNCLASSIFIED PROCESSING DATE--3000170
TITLE--EFFICIENCY OF SPECIFIC IMMUNE PREPARATIONS AND THEIR COMBINATIONS
WITH ANTIBIOTICS IN TREATMENT OF PURULENT INFECTIONS -U-
AUTHOR--GUBAYDULLINA, M.Z.

COUNTRY OF INFO--USSR

SOURCE--ANTIBIOTIKI, 1970, VOL 15, NR 6, PP 535-537

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--STAPHYLOCOCCUS INFECTION, ANATOXIN, RABBIT, PROTEUS,
LEVOMYCETIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--2000/1863

STEP NO--UR/0297/70/015/006/0535/0537

CIRC ACCESSION NO--AP0125474

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125474

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EFFICIENCY OF LEVOMYCETIN COMBINATION WITH STAPHYLOCCAL ANATUXIN IN TREATMENT OF RABBITS WITH WOUND INFECTIONS CAUSED BY STAPHYLOCOCCI AND PROTEUS, AS WELL AS EFFICIENCY OF LEVOMYCETIN ALONE USED FOR THE TREATMENT OF RABBITS WITH THE SAME INFECTION BUT PRELIMINARY IMMUNIZED WITH STAPHYLOANATOXIN 1 ONE HALF, 6 AND 12 MONTHS BEFORE THE INJURY WERE STUDIED. TREATMENT OF IMMUNIZED ANIMALS PRODUCED BETTER RESULTS. FACILITY: BASHKIR MEDICAL INSTITUTE, UFA.

UNCLASSIFIED

USSR

UDC 669.14.018.262

ADAMESKU, R. A., VOSTRIKOV, A. A., GUSCHESKIY, V. P., MARKOV, YU. N., and
NEPKINA, E. D., Ural Polytechnic Institute and the Magnitogorsk Metallurgical
Combine

"Recrystallization Texture of Low-Carbon Steel"

Moscow, Stal', No 7, Jul '73, pp 650-652

Abstract: The recrystallization texture of low-carbon steels 08Yu and 08Fkp in all the investigated deformations (3-90%) was multi-component and can be mainly described by three orientations: $(111) \begin{smallmatrix} \diagup \\ \diagdown \end{smallmatrix} \begin{smallmatrix} 112 \\ 112 \end{smallmatrix}$, $(211) \begin{smallmatrix} \diagup \\ \diagdown \end{smallmatrix} \begin{smallmatrix} 011 \\ 011 \end{smallmatrix}$, and $(100) \begin{smallmatrix} \diagup \\ \diagdown \end{smallmatrix} \begin{smallmatrix} 011 \\ 011 \end{smallmatrix}$. The ratio between components varies with degree of deformation. The main component in the recrystallization texture of low-carbon steels 08Yu and 08Fkp is the orientation $(111) \begin{smallmatrix} \diagup \\ \diagdown \end{smallmatrix} \begin{smallmatrix} 112 \\ 112 \end{smallmatrix}$, the intensity of which is increased with rise in the degree of reduction during cold rolling. A low temperature of uncoiling hot-rolled strip for steel 08Yu and high for steel 08Fkp is necessary for producing the strong component $(111) \begin{smallmatrix} \diagup \\ \diagdown \end{smallmatrix} \begin{smallmatrix} 112 \\ 112 \end{smallmatrix}$ in the weak component $(100) \begin{smallmatrix} \diagup \\ \diagdown \end{smallmatrix} \begin{smallmatrix} 011 \\ 011 \end{smallmatrix}$ with the goal of improving the mechanical properties of low-carbon steel. Here the degree of deformation during cold rolling should be not less than 50%. Two figures, one table, 11 bibliographic references.

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Analysis and Testing

USSR

UDC 669.14-41:620.186.5

VOSTRIKOV, A. A., GUBCHEVSKIY, V. P., ZBOROVSKIY, A. A., NEMKINA, E. D.,
RADAYEV, G. D.

"Ultrasonic Method of Studying Recrystallization of Sheet Steel"

Zavodskaya Laboratoriya, No 3, 1971, pp 302-304.

ABSTRACT; Specimens of Type 08 kp steel 1 mm thick, annealed at 50°C intervals in the 100-1,200°C range, were used to study the dependence of attenuation of ultrasound (inclination of piezoelement 40°, frequency 2.5 MHz) on angle of beam deflection in relationship to the rolling direction. Parallel x-ray structural studies of the process of recrystallization of these specimens confirmed the possibility of determining the temperatures of beginning and ending of recrystallization on the basis of approximate attenuation curves of ultrasound, and also of studying the kinetics of the process of recrystallization of sheets of this steel. 3 Figures; 1 Table; 2 Biblio. Refs.

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1/2 010 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--GERMANIUM TIN PLUS 2 WT. PERCENT ANTIMONY AND GERMANIUM, TIN PLUS
5.5 WT. PERCENT ANTIMONY -U-
AUTHOR--(02)-GUSENKO, A.YA., MILLER, M.B.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(3), 471-4
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--GERMANIUM ALLOY, TIN ALLOY, ANTIMONY ALLOY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1996/0842 STEP NO--UR/0363/70/006/003/0471/0474
CIRC ACCESSION NO--AP0118018
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0113019

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE LIQUIDUS OF THESE WAS
CONSTRUCTED. THE SOLY. OF SB IN THE SOLID PHASES ON THESE SECTIONS WAS
DETD. THE DISTRIBUTION COEFF. K SUBSB IS STRONGLY DEPENDENT ON THE
RATE OF GROWTH. THE CONC. DEPENDENCE OF THE RESISTIVITY OF SN-AS
CONTACTS WAS INVESTIGATED. WITH INCREASING AS CONC., THE RESISTIVITY
DECREASES. THE RESISTIVITY OF CONTACTS BASED ON THE ALLOY SN PLUS 2 WT.
PERCENT AS IS LOWER AT ALL TEMPS. THAN FOR THE CASE OF THE SN PLUS 5.5
WT. PERCENT SB ALLOY.

UNCLASSIFIED

1/2 028

UNCLASSIFIED

PROCESSING DATE--16JCT70

TITLE--LIQUATION OF GOLD ACCORDING TO SPECIFIC GRAVITY IN MOLTEN GERMANIUM

-U-

AUTHOR--GUBENKO, A.YA.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(3), 550-2

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--GOLD, LIQUID METAL, ZONE MELTING, GERMANIUM ALLOY, SINGLE CRYSTAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0900

STEP NO--UR/0363/70/000/003/0550/0552

CIRC ACCESSION NO--AP0118069

UNCLASSIFIED

2/2 028

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118069

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BEHAVIOR OF MOLTEN GE WAS STUDIED DURING THE GROWTH OF SINGLE CRYSTALS BY THE HORIZONTAL ZONE MELTING METHOD. THE CRYSTALS WERE GROWN IN THE (111) DIRECTION. THE DISTRIBUTION OF SP. ELEC. RESISTIVITY ALONG THE LENGTH OF THE GE SINGLE CRYSTALS WAS STUDIED. THE DISTRIBUTION OF AU IN THE MOLTEN ZONE WAS DETD. BY STUDYING THE END OF THE CRYSTAL FORMING DURING THE CRYSTN. OF MOLTEN ZONE. A NEW TYPE OF HETEROGENEITY WAS ENCOUNTERED UPON DOPING WITH AU, THE REASON FOR WHICH IS PROBABLY THE LIQUATION OF AU IN MOLTEN GE. FURTHER, THE AU PRESENT SLIGHTLY ENRICHES THE UPPER PART OF THE MELT. THE OBSD. HETEROGENEITY IS EXPLAINED. THE EXPTS. WERE PERFORMED IN A VACUUM FURNACE IN A CRUCIBLE, THE CONSTRUCTION OF WHICH IS BASED ON THE PRINCIPLE OF COMMUNICATING CONTAINERS. THE CRUCIBLE CONSISTED OF 2 CRUCIBLES LOCATED ON TOP OF ONE ANOTHER AND JOINED BY A VERTICAL CONAL. A CURVE WAS CONSTRUCTED SHOWING THE DEPENDENCE OF THE AU CONTENT IN THE LOWER CRUCIBLE ON THE HOLDING TIME OF THE MELT. THE TRANSFER OF AU IN THE EXPTS. IS CAUSED BY THE LIQUATION OF AU DUE TO THE LARGE DIFFERENCE IN SP. GR. THUS, IN THE GE-AU SYSTEM A LIQUATION WAS OBSD. EVEN AT RELATIVELY LOW CONCNS. OF THE 2ND COMPONENT (10 PRIME19-10 PRIME20 CM PRIME NEGATIVE3). THE INFLUENCE OF THE CONVECTION CURRENTS ON THE MICROCOMP. OF THE MELT, IN THE FINAL ANAL., DETS. THE DISTRIBUTION OF THE DOPING IMPURITY IN THE CRYSTAL.

UNCLASSIFIED

USSR

UDC 621.791.89.546.56:546.78

NESMIKH, V. S., MALEVSKIY, YU. B., GUBENKO, B. G., and KHORUNOV, V. F., Institute of Electric Welding imeni Ye. O. Paton, Academy of Sciences UkrSSR

"Contact-Reaction Soldering of Copper With Refractory Metals"

Kiev, Avtomatisheskaya Svarka, No 8, Aug 70, pp 59-61

Abstract: A method for the contact-reaction soldering of copper with tungsten, molybdenum, chromium, and other metals using a titanium interlayer was developed by the authors. Experiments were conducted in a vacuum chamber with electron-beam heating. The 10-mm-diameter cylindrical samples were made of tungsten, molybdenum, chromium, niobium, and copper. The titanium foil interlayer was 12 microns. The samples were subjected to compression at different times during soldering (before the appearance of the liquid phase, immediately after contact soldering, or after a certain isothermic holding time). The soldered joints were tested for tensile strength and heat resistance. Phase content and joint structure were studied by metallographic and x-ray spectral analysis. The results show that pressure application immediately after the end of contact soldering is the most expedient procedure. A technology for the production of x-ray tube anodes was developed on the basis of these results.

1/2 026 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--PHARMACOLOGICAL ACTIVITY AND TOXICITY OF NUCLEASES -U-
AUTHOR-(04)-LAPIK, A.S., GURENKO, I.S., KORUCHKIN, L.I., SALGANIK, R.I.
COUNTRY OF INFO--USSR
SOURCE--FARMAKOL. TOKSIKOL. (MOSCOW) 1970, 33(2), 210-12
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--RIBONUCLEASE, DNA, MOUSE, CAT, CENTRAL NERVOUS SYSTEM, DRUG
EFFECT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1994/1165 STEP NO--UR/0390/70/033/002/0210/0212
CIRC ACCESSION NO--AP0115184
UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0115184

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. R NASE AND D NASE HAD LOW TOXICITY AND DID NOT AFFECT THE ARTERIAL PRESSURE, RESPIRATION, OR SMOOTH MUSCLE TONUS IN MICE OR CATS. NUCLEASES ADMINISTERED ONCE OR TWICE I.P. TO MICE AT 400 MG-KG HAD NO CYTOTOXIC OR MUTAGENIC ACTIVITY, AND D NASE REPEATEDLY ADMINISTERED I.V. AT 20 MG-KG DID NOT AFFECT THE CONTENT OR INTENSITY OF DNA SYNTHESIS IN CELL NUCLEI. TOXIC EFFECTS ON THE CENTRAL NERVOUS SYSTEM APPEARED ONLY WHEN LARGE DOSES (100 MG-KG OF D NASE AND R NASE WERE INJECTED DIRECTLY INTO THE BRAIN. NEITHER COMPO. ADMINISTERED 5 TIMES S. C. AT 50 MG-KG HAD ANY NOTICEABLE EMBRYOTOXIC EFFECT ON MICE. FACILITY: NOVOSIBIRSK. INST. ORG. KHIN, NOVOSIBIRSK, USSR.

UNCLASSIFIED

USSR

UDC: 519.2

GUBENKO, L. G., SHTATLAND, E. S.

"Controllable Markov and Semi-Markov Models and Some Specific Problems of Optimizing Stochastic Systems"

Kiev, Upravlyayemyye sluchayn. protsessy i sistemy--sbornik (Controllable Random Processes and Systems--collection of works), 1973, pp 87-119 (from RZh-Kibernetika, No 5, May 73, abstract No 5V98 by the authors)

Translation: The paper discusses controllable Markov processes with discrete time, and controllable semi-Markov processes with spaces of states and solutions (controls) of fairly general structure. The set of allowable solutions in each state depends on the index of the state. The criterion of optimality is the minimum anticipated return per unit of time assuming infinite duration of functioning of the controllable system. Specific problems of optimizing queuing, storage and monitoring systems are considered by way of application.

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USSR

GUBENKO, L. G., SITATLAND, E. S.

"Controllable Markov Processes with Discrete Time"

Teoriya Veroyatnostey i mat. Stat. Mezhd. Nauch. sb. [Theory of Probabilities and Mathematical Statistics, Interdepartmental Scientific Collection], 1972, No 7, pp 51-64 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V118 by the authors).

Translation: The problem of optimal control of a Markov process with discrete time is studied. The spaces of states X and of controls A are certain full separable metric spaces. The set of permissible controls in states $x \in X$ is a nonempty closed set $A_x \subseteq A$. The criterion of optimality is the mean progress per unit time. Sufficient conditions are presented for existence of optimal Markov stable non-randomized strategies.

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USSR

UDC 576.851.48.097.29

SMIRNOVA, V. I., GUBENKO, T. L., and GOLUBTSEVA, M. V., Agricultural Institute, University, and Scientific Research Institute of Virology and Epidemiology, Odessa

"The Hemolytic and Cytotoxic Activity of Escherichia coli Exotoxins"

Kiev, Mikrobiologichniy Zhurnal, Vol 35, No 4, Jul/Aug 73, pp 456-460

Abstract: On centrifuging of a 24 hr Hottinger broth culture of E. coli isolated from a patient with a urological disease, the exotoxins from the supernatant liquid were concentrated by precipitation with trichloroacetic acid. Electrophoresis of the exotoxins resulted in the separation of a component that exhibited hemolytic associated with cytotoxic activity from another component which had proteolytic activity and was toxic to animals. The hemolytic and cytotoxic activity of the first component was due to a thermally labile protein substance that did not dialyze. In view of the fact that addition of magnesium salts, calcium salts, or cysteine did not alter the hemolytic and cytotoxic activity, one could conclude that this activity was not due to lecithinase C.

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USSR

SAVCHENKO, B. I., and GUBENKO, T. L., Odessa Institute of Virology and Epidemiology imeni I. I. Mechnikov

"Immunogenic Activity of Freshly Isolated Hemagglutinating ECHO Viruses"

Moscow, Voprosy Virusologii, No 4, Jul/Aug 71, p 491

Translation: The immunogenic activity of 18 freshly isolated strains of nine sero types of hemagglutinating viruses of the ECHO group was studied. The tests were performed on white rats. Differences in the formation of anti-hemagglutinating and virus-neutralizing antibodies by the various virus strains belonging to one serotype were observed. Immunization with some strains resulted in the formation of antihemagglutinating antibodies in titers considerably exceeding those of virus-neutralizing antibodies. At the same time, a number of other strains induced the formation of virus-neutralizing antibodies in high titers. The concentration of specific antihemagglutinating antibodies was independent of hemagglutinating titers of the viruses. Virus antigens can accumulate on intertwining chick fibroblast cells, provided the strains are previously adapted and selected according to their infectious activity. Combination during immunization of antigens accumulated on chick

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SAVCHENKO, B. I., et al, Voprosy Virusologii, No 4, Jul/Aug 71, p 491

embryo cells and those accumulated on trypsinized human embryo kidney cells promotes increase of the immunological activity of the antigens. The ability of freshly isolated strains to form antihemagglutinating antibodies in high titers is the most important criterion of selecting them for production of diagnostic sera.

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1/2 025 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--COMPUTER DETERMINATION OF APPROXIMATE DEPENDENCES OF THE ROOT MEAN
SQUARE DEVIATIONS OF THE CRITICAL FREQUENCIES OF THE F2 LAYER ON
AUTHOR--GUBENKO, V.S., RODIONOV, YA.S.
COUNTRY OF INFO--USSR
SOURCE--GEOMAGNETIZM I AERONOMIJA, VOL 10, NO. 1, 1970, P 144-146
DATE PUBLISHED-----70
SUBJECT AREAS--ATMOSPHERIC SCIENCES, ASTRONOMY, ASTROPHYSICS
TOPIC TAGS--CRITICAL FREQUENCY, F LAYER, SOLAR ACTIVITY, GEOMAGNETIC
LATITUDE, SUNSPOT, COMPUTER APPLICATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/0789 STEP NO--UR/0203/70/010701/014-70146
CIRC ACCESSION NO--AP0102751
UNCLASSIFIED

2/2 025 UNCLASSIFIED PROCESSING DATE--11SEP70
CIRC ACCESSION NO--AP0102751
ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. CONSIDERATION OF THE PROBLEM OF
DETERMINING APPROXIMATE DEPENDENCES OF THE RMS DEVIATIONS OF THE F2
LAYER CRITICAL FREQUENCIES ON LATITUDE AND SOLAR ACTIVITY IN A FORM
SUITABLE FOR COMPUTER CALCULATION OF LONG RANGE IONOSPHERIC FORECASTS.
IN CONTRAST TO CERTAIN OTHER WORKS ON THIS SUBJECT, WHERE ESTIMATES OF
RMS DEVIATIONS ARE MADE FROM A QUARTILE RANGE, THE PROPOSED METHOD
INVOLVES THE USE OF SAMPLE RMS DEVIATIONS, WHICH ARE A MORE ACCURATE
ESTIMATE OF THE TRUE RMS DEVIATIONS. IN APPROXIMATING THESE
DEPENDENCES, A POLYNOMIAL OF THIRD DEGREE WITH RESPECT TO THE
GEOMAGNETIC LATITUDE AND OF SECOND DEGREE WITH RESPECT TO THE SUNSPOT
NUMBER IS USED.

UNCLASSIFIED

1/2 030 UNCLASSIFIED PROCESSING DATE--19SEP70
TITLE--FEATURES OF GELATINATION IN POLY(VINYL ALCHOL) -U-

AUTHOR-(04)-GEMBITSKIY, L.S., GUBENKOVA, YE.N., VERKHOTINA, L.N.,
SPERANSKIY, V.V.
COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(2) 259-66

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--GELATION, POLYVINYL ALCOHOL, GEL, PLASTIC FILM, GLYCEROL,
ETHYLENE GLYCOL, CRYSTAL STRUCTURE, X RAY STUDY, THERMOMECHANICAL
PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/1196

STEP NO--UR/0459/70/012/002/0259/0266

CIRC ACCESSION NO--AP0104562

UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0104562

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEPENDENCE OF STRUCTURAL TRANSITIONS IN POLY(VINYL ALCOH.) (1) GELS AND FILMS ON TEMP., SOLVENT COMPN., AND CONC. WAS STUDIED. AQUEOUS SOLUTIONS DILUTED WITH PPTG. ALCOH. GLYCEROL, DIETHYLENE GLYCOL, AND ETHYLENE GLYCOL WERE HETEROGENEOUS, HAVING 0.6-0.8 MU PARTICLES. THE APPARENTLY FIRST ORDER SOLN. GEL TRANSITION WAS ACCOMPANIED BY ABRUPT VOL. CHANGES. THE OCCURRENCE OF CRYST. WITH HEATING AT 160-210 DEGREES OBSD. BY THERMOMECH. BEHAVIOR AND BIREFRINGENCE, WAS CORROBORATED BY X RAY ANAL. ONE CRYST. STRUCTURE HAVING INTERPLANAR DISTANCE 4.37 ANGSTROM AND 2 THETA EQUALS 20 DEGREES WAS DETD. IN 1 GEL, FILM, AND POWDER. ANOTHER WAS OBSD. ON HEATING 1 FILM ABOVE THE GLASS TRANSITION.

UNCLASSIFIED

Acc. Nr.

AP0045146

Abstracting Service:
CHEMICAL ABST.

Ref. Code

5-70 280138

91302a Flow of rubber mixtures through dies of varying length during extrusion. Guber, E. B.; Bartenev, G. M.; Rozenoer, I. N.; Vershinina, O. Yu. (Nauch.-Issled. Inst. Rezin. Prom., Moscow, USSR). *Kauch. Rezina* 1970, 29(1), 26-9 (Russ). The flow of SKS-30 ARKM-15 and SKN-26M (I) rubber mixts. (contg. variable amts. of plasticizer and filler) through dies having a length-to-diam. ratio of 0.5-5.0 was studied. The flow of rubber mixts. through short dies at crit. pressures (which caused the accumulation of highly elastic deformation) was accompanied by elastic turbulence. The elastic turbulence was characterized by slippage of rubber mixts. through the extruder. The surface of the extrudate deteriorated and its diam. increased due to elastic turbulence. Increased content of carbon black (II) brought about improved surface quality and smaller extrudate diam., e.g., I filled with 40-60 parts II per 100 parts I exhibited markedly improved properties. Thus, the properties of the extrudates were mainly detd. by their elastic properties. The shrinkage of extruded mixts. was inversely proportional to the length of the extruder.

CKJR

REEL/FRAME

19780046

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USSR

UDC 576.8.06.083.1(047)

ZHDANOVA, L. G., and GRUBER, I. M., Moscow Institute of Vaccines and Sera
Imeni Mechnikov

"Continuous Culture of Pathogenic Microorganisms (A Review)"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, 1973,
pp 92-97

Abstract: Continuous culture makes it possible to obtain a microbial biomass that can easily exceed that obtained by conventional culturing 40-50 times per unit of time. Continuous culture offers a number of advantages as, for example, in the isolation of the M protein from group A hemolytic streptococci grown on a synthetic medium without proteins. In conventional culturing it is difficult to obtain this protein since it is rapidly degraded by proteases which accumulate in the medium. On the whole, it appears that continuous culture has been most often employed in the case of pathogenic microorganisms for the preparation of cellular vaccines, or vaccines consisting of cell products (toxins). However, continuous culturing is not used as widely as might be expected in view of the fact that in many cases the important antigenic determinant in a vaccine is not known, and because of the difficulty in keeping the apparatus sterile with respect to undesirable organisms. Most frequently, continuous culture is employed for the preparation of whooping cough vaccines.

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Hydraulic and Pneumatic

USSR

UDC: 536.24:532.54

KORNIYENKO, T. S., GUBER, Yu. Ye., KOSTOV, P. D.

"Determination of Hydraulic Drag Based on Experimental Data on Mass Transfer at High Schmidt Numbers"

V sb. Teplo- i massopereenos (Heat- and Mass-Transfer--collection of works), T. 1, Minsk, 1972, pp 285-287 (from RZh-Mekhanika, No 7, Jul 72, Abstract No 7B788)

Translation: In this research the authors determined the hydraulic drag of a rotating cylinder 70 mm high and 100 mm in diameter at Reynolds numbers of 10^4 - $1.2 \cdot 10^6$, and of the central zone in the bottom of a channel of rectangular cross section 80 mm wide and 30 mm high; the Schmidt numbers were $2 \cdot 10^3$ - $1.3 \cdot 10^5$ in the first case, and $5.9 \cdot 10^2$ - 10^5 in the second. In the experiments with the cylinder, the working surface was comprised of rectangular sections of the lateral surface with a height of 20 mm along the generatrix of the cylinder and extending along the circumference 2, 10 and 314 mm, while in the experiments with the channel the working surface was made up of plates 50 and 20 mm wide and 25, 50, 100 and 200 mm long flush with the bottom of the channel. In the experiments with the cylinder the limiting diffusion currents were measured in

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KORNIYENKO, T. S. et al., Teplo- i massoperenos, T. 1, Minsk, 1972, pp 285-287

the potassium ferro-ferricyanide redox reaction in aqueous solutions of caustic soda on nickel cathodes. In addition, use was made of the method of dissolving working surfaces made by pressing benzoic acid at a pressure of $2 \cdot 10^8 - 4 \cdot 10^8 \text{ N} \cdot \text{m}^{-2}$ in water and in water-glycerin solutions. Only the dissolution method was used in the experiments with the channel.

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1/2 022

UNCLASSIFIED

PROCESSING DATE--3000770

TITLE--CLINICAL ASPECTS AND DIAGNOSIS OF CHRONIC HYPERACID GASTRITIS -U-

AUTHOR--(02)-GUBERGRITS, A.YA., RADUGINA, G.S.

COUNTRY OF INFO--USSR

SOURCE--VRACHEBNOYE DELO, 1970, NR 6, PP 71-74

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DIGESTIVE SYSTEM DISEASE, PAIN, SYNDROME

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3001/1601

STEP NO--UR/0475/70/000/006/0071/0074

CIRC ACCESSION NO--AP0127092

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--30OCT76
CIRC ACCESSION NO--AP0127092
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FOLLOWING ARGUMENTS ARE
PRESENTED FOR SINGLING OUT HYPERACID (HYPERSECRETORY) GASTRITIS AS A
FORM OF CHRONIC GASTRITIS: MORE DISTINCT PAIN SYNDROME AND ACIDISM
PHENOMENA, TENDENCY FOR TRANSITION TO ULCER DISEASE, CERTAIN FUNCTIONAL
GASTRIC CHANGES AND NON SPECIFIC MORPHOLOGICAL CHANGES OF THE GASTRIC
MUCOSA. THE INCLUSION OF ANTISPASTIC, GANGLIOLYTIC AND ANTACID DRUGS
IN THE TREATMENT PLAN IS SUGGESTED TO BE JUSTIFIED IN PATIENTS WITH
CHRONIC HYPERACID GASTRITIS. FACILITY: FAKUL'TETSKAYA
TERAPEVTICHESKAYA KLINIKA DCHNETSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

Acc. Nr: **AP0047163**

Ref. Code: UR 0246

PRIMARY SOURCE: Zhurnal Nevropatologii i Psikhatrii, 1970,
Vol 70, Nr 2, pp 177-181

MATHEMATICAL PROGNOSIS OF OUTCOMES IN HEMORRHAGIC
STROKES WITH THE PURPOSE OF DETERMINING
INDICATIONS TO SURGICAL TREATMENT

Gelfand, I. M.; Guberman, S. A.; Izvekova, M. L.;

Kandel', E. I.; Lebedeva, N. V.; Lunev, D. K.;

Nikolaveva, I. F.; Chebotareva, N. M.

The purpose of the convened study was to elaborate methods of mathematical prognosis in hemorrhagic strokes to define the indications to surgical treatment. The authors analyzed 124 case histories (52 case histories of living patients and 72 case histories of deceased) with hemorrhages into the brain hemisphere, following hypertensive disease and atherosclerosis. In such cases 56 items were considered which were the most significant for prognosing hemorrhagic strokes. Among them were different clinical symptoms and their development during 12 hours after admission to hospitals. An analysis of these items permitted to establish a correct prognosis in relation to survival during the first 5 days with exactness to 95%. The next stage of the study presumes an elaboration of methods for prognosis of hemorrhagic strokes in surgical treatment. This may be of aid in deciding the expediency of operations in each separate case.

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REEL/FAME
19790657

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UDC 550.343.62

USSR

GEL'FAND, I. M., Corresponding Member of the USSR Academy of Sciences, ~~GUBERMAN, SH. A.~~, IZVEKOVA, M. A., KEYLIS-BOROK, V. I., RANTSMAN, YE. YA.

"High Seismicity Criteria"

Moscow, Doklady Akademii Nauk SSSR, Vol 202, No 6, 1972, pp 1317-1320

Abstract: A study was made of the problem of finding points in the eastern part of Central Asia where earthquakes with a magnitude of $M > 6.5$ are possible. A figure is presented showing that all the epicenters of the 22 such earthquakes occurring since 1885 lie at disjunctive nodes with active movements in modern times (the last 25 million years, beginning with the Neogene). It is proposed that earthquakes with $M > 6.5$ can occur only at such nodes, in particular, at the 16 nodes where they have already occurred. The problem then reduces to finding at which of the remaining 25 nodes earthquakes with $M > 6.5$ are possible. The problem was solved by means of the KORA-3 recognition program [M. M. Bongart, et al., *Geologiya i geofizika*, No 6, 1966; "Complex Interpretation of Geophysical Data on Computers," *Tr. Moskovsk. inst. neftekhimich. i gazovoy prom. im. I. M. Gubkina*, No 62, 1965]. A table is presented showing the variation of the recognition results during the course of seismic history. The conclusion is drawn that earthquakes with $M > 6.5$ are possible at fixed nodes: Fayzabad, Alayskiy, Zaalayskiy, Obi-Khingou-Surkhob, Sarydzhaz and Kun'lun'. The

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USSR

GEL'FAND, I. M., et al., Doklady Akademii Nauk SSSR, Vol 202, No 6, 1972, pp 1317-1320

reliability of this conclusion was evaluated experimentally. The six nodes have one common feature -- they are all located in the zones of latest contrast movements at the boundaries of mountainous areas.

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USSR

ZELENSKIY, M. A., et al., Selektsiya i Seminovodstvo, Vol 36, No 6, Nov/Dec 71, pp 33-34

that were promising with respect to immunity to powdery mildew resulted from hybridization. Good results were obtained by repeated crossing of highly immune hybrids with cold-resistant varieties of the forest-steppe ecological type. It was established that in repeated crossing the best results with respect to development of resistant varieties were obtained by using a pollen recipient (maternal variety) that was more resistant to powdery mildew than the pollen donor (paternal variety).

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APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002201020019-4"

ZELENSKIY, Prof. M. A., GUBERNATOR, F. F., Candidate of Agricultural Sciences, and MOVA, N. S., Agronomist

"Evaluation of Types of Winter Wheat With Respect to Resistance to Powdery Mildew"

Moscow, Selektsiya i Seminovodstvo, Vol 36, No 6, Nov/Dec 71, pp 33-34

Abstract: Winter wheat in the Ukraine is damaged by powdery mildew to a considerable extent. The principal reason is planting of varieties that are not resistant to this disease. The Chair of Selection and Seed Growing, Ukrainian Academy of Agriculture, conducted field tests in which the resistance of 150 varieties of winter wheat to powdery mildew was determined. Methods recommended by the State Commission for the Testing of Varieties of Agricultural Crops were applied to evaluating the resistance of the varieties tested. The number of pustules on various parts of the plants, the yield, and the fullness of the grain were used as criteria in evaluating resistance. Twelve varieties were found to be highly resistant. Among them were varieties selected in the USSR, including Mironovskaya 808 and Rannyaya 12, local varieties from Latvia and L'vovskaya Oblast', and varieties introduced from foreign countries in which the disease occurs frequently (Korea, France, Italy, etc.). Varieties

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USSR

UDC: 621.316

GORDIYENKO, A. G., GUBERNATOROV, O. I., PIVOVAR, V. T., and
PIVOVAR, R. M.

"Broad-Band Nuclear Magnetometer With Limited Accuracy of Magnetic Field Intensity Measurement"

Leningrad, Priborostroyeniye, No 2, 1972, pp 21-25

Abstract: The broad-band magnetometer, which uses the phenomenon of nuclear magnetic resonance as its basic operating principle, is widely used in modern particle accelerators and in nuclear-magnetic and electron-paramagnetic resonance spectrometers for measuring the intensity of the magnetic field. This article describes a highly sensitive nuclear magnetometer with proton sensors and a self-oscillator in the form of a digital frequency synthesizer with automatic phase-frequency control and a highly stable reference oscillator. The device has been designed for continuous measurement of magnetic field intensities ranging from 1.2 to 6.5 kiloersteds. Block diagram of the self-oscillator, which has a frequency range of 5-28 MHz tunable with minimum steps of 10 Hz in five channels, is given and its operation described. The authors are connected with the Kharkov Institute of Radio Engineering.

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USSR

UDC 621.396.62:621.396.97

GURBENATOV, O. I., PIVOVAR, V. T., PIVOVAR, R. M., COVETKIN, A. G.,
TSYBUL'KO, V. I.

"A Medium-Band Radio Receiver With Digital Frequency Synthesizer"

Radiotekhnika. Resp. mezhyed. nauch.-tekhn. sb. (Radio Engineering.
Republic Interdepartmental Scientific and Technical Collection), 1971,
vyp. 12, pp 16-21 (from RZh-Radiotekhnika, No 7, Jul 71, Abstract No
7D11)

Translation: The paper describes a transistorized socket-powered relay receiver with fixed tuning and double frequency conversion designed for huntless and adjustment-free reception of one hundred radio stations in the medium-wave band. Rapid and accurate tuning of the receiver is achieved by using a digital frequency synthesizer as the heterodyne. Tuning precision is ensured by the high stability of the heterodyne, which is determined by the stability of a quartz-crystal reference oscillator. Resumé.

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USSR

UDC 621.373

GUBERNATOROV, G. V., PIVOVAR, R. M., PIVOVAR, V. T., GORDIYENKO, A. I.

"Code Control of a Digital Frequency Synthesizer"

Pribory i sistemy avtomatiki. Resp. mezhyed. nauchno-tekhn. sb. (Devices and Systems for Automation. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp. 13, pp 102-105 (From RZh-Radiotekhnika, No 10, Oct 70, Abstract No 100398)

Translation: The article describes the control circuit for a digital frequency synthesizer which operates in the 30 MHz range with discrete intervals of 50 kHz. Control is by five-digit parallel binary code. A block diagram of a frequency divider is given with division coefficient variable from 35 to 60 and programmed setting of this coefficient. The maximum frequency of the divider is 1.5 MHz. An advantage of the described digital synthesizer control circuit is absence of the mechanical inertia of switches which would increase the time for switching of the output channels. One illustration, bibliography of three titles. Resumé.

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1/2 025 UNCLASSIFIED PROCESSING DATE--090CT70
TITLE--EFFECT OF THE THICKNESS OF ROLLED IRON ON SECONDARY
RECRYSTALLIZATION -U-
AUTHOR--(04)--GUBERNATUROV, V.V., SUKOLOV, B.K., SCHASTLIVTSEVA, I.K.,
TITUROV, D.B.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(2), 376-8
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--TRANSFORMER STEEL, METAL RECRYSTALLIZATION, COLD ROLLING,
SHEET METAL, ALUMINUM ALLOY, IRON ALLOY, NICKEL ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1995/0183

STEP NO--UR/0048/70/034/002/0376/0378

CIRC ACCESSION NO--AP0115887

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0115887

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TRANSFORMER STEEL SHEETS SUPPLIED BY 2 DIFFERENT PLANTS HAVE BEEN COLD ROLLED TO A REDN. OF 90, 92, 94, AND 96PERCENT, RECRYSTD. 2 HR AT 750DEGREES IN VACUUM, AND THEN CHEM. POLISHED FROM ONE SIDE OF THE SHEET TO PRODUCE SPECIMENS OF DIFFERENT THICKNESS: 0.05-0.20 MM. SUBSEQUENT HIGH TEMP. ANNEAL FOR 2 HR AT 1050DEGREES PRODUCED A VARYING DEGREE OF SECONDARY RECRYSTN. SECONDARY RECRYSTN. IS LESS DEVELOPED WITH DECREASING SPECIMEN THICKNESS AND AT 0.10 MM IT DOES NOT OCCUR, REGARDLESS OF HOW THIS THICKNESS IS OBTAINED (COLD ROLLING OR POLISHING). SIMILAR RESULTS ARE QUOTED FOR AL USED FOR ELEC. PURPOSES AND SOME FE-NI ALLOYS. WHILE CONSIDERING THE IMPORTANCE OF INCLUSIONS IN PROMOTING THE EFFECT OF SECONDARY RECRYSTN., IN SUFFICIENTLY THIN SPECIMENS THE VACUUM ANNEAL CAN LEAD TO VAPORIZATION OF INCLUSIONS WITH THE RESULTING UNIFORM GROWTH OF THE MATRIX GRAINS. ON THE OTHER HAND, IN THIN SPECIMENS INDIVIDUAL GRAINS CANNOT GROW LARGE ENOUGH TO ACT AS NUCLEI OF SECONDARY RECRYSTN. FACILITY: INST. FIZ. METAL., SVERDLOVSK, USSR.

UNCLASSIFIED

Radiobiology

UDC 577.15.016

USSR

DROZHENNIKOV, V. A., GUBERNIYEV, M. A., RYBAKOV, N. I., RYZHOV, N. I., and MASHINSKAYA, T. Ye., Scientific Research Laboratory of Experimental Immunobiology, Academy of Medical Sciences USSR

"Effect of Ultraviolet and Ionizing Radiation on E. coli K12 (λ) Nuclease Activity"

Moscow, Biokhimiya, No 5, 1971, pp 883-888

Abstract: The intensity of activity of endonuclease I, exonuclease III, and phage-specific exonuclease of E. coli K12 (λ) was studied after exposure to different doses of ultraviolet radiation and high-energy protons. The activity of the first two enzymes was not affected by ultraviolet radiation or high-energy protons at doses causing maximum induction of vegetative phage. The absence of an effect is attributed to the fact that these agents, unlike a chemical mutagen, such as mitomycin C, do not result in degradation of the ribosomes of the bacterial cell. The activity of exonuclease specific for phage λ was related to the degree of induction of vegetative phage, reaching a peak at the time of lysis of irradiated cells. Exonuclease activity at this time was much lower after the use of high-energy protons than after ultraviolet radiation. Analysis of the concentration of intracellular DNA

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DROZHENNIKOV, V. A., et al., Biokhimiya, No 5, 1971, pp 883-888

and total protein in material not incubated after exposure to the inducing agents showed no change in these indexes.

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UDC 577.15.016

DROZHENNIKOV, V. A., GUBERNIYEV, M. A., RYBAKOV, N. I., RYZHOV, N. I., and MASHINSKAYA, T. YE., Scientific Research Laboratory of Experimental Immunobiology, Academy of Medical Sciences USSR, Moscow

"Investigation of Nuclease Activity of E. Coli (λ) After Exposure to Ultraviolet Light and Ionizing Radiation"

Moscow, Biokhimiya, Vol 36, No 5, 1971, pp 883-888

Abstract: The activities of endonuclease I, exonuclease III, and the phage-specific exonuclease of the lysogenic E. Coli K12 (gamma) strain were studied. After exposure to various doses of ultraviolet light $6.46 \text{ erg/mm}^2/\text{sec}$ and 645 MeV protons 60 rad/sec , induction of bacteriophages under these conditions was also investigated. Doses which evoke maximum induction of bacteriophages do not change the activity of either endonuclease I or endonuclease III. On the other hand, the activity of the phage-specific exonuclease is proportional to the induction of bacteriophages, reaching its maximum just prior to lysis of the irradiated cells. As a result, curves representing the lethal effects and bacteriophage induction caused by irradiation with ultraviolet light and with high energy protons have different shapes. After exposure to ultraviolet light, a spike-shaped maximum induction occurs at a dose of 250 erg/mm^2 . After exposure to high energy protons, the induction

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DROZHENNIKOV, V. A., et al., Biokhimiya, Vol 36, No 5, 1971, pp 883-888

curve has a plateau extending from 50 to 100 Krad.

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Acc. Nr:

AP0046553

Ref. Code: UR 0216

PRIMARY SOURCE: Izvestiya Akademii Nauk SSSR, Seriya
Biologicheskaya, 1970, Nr 1, pp 38-42

Rybakov, N. I.; Guberniyev, M. A.; Chimirov, O. B.;
Drozhennikov, V. A.; Aniskin, Ye. D.; Kolobov, A. V.;
Kozlov, V. A.

INFLUENCE OF SOME RADIOPROTECTORS ON THE PROCESSES CONNECTED
WITH LYSOGENIZATION OF THE BACTERIA AND INDUCTION
OF INTERCELLULAR λ -EXONUCLEASE

The influence of the radioprotector finam on the processes of lysogenization of the bacteria with the λ phage and induction of λ -exonuclease was studied in the course of experiments with E. coli SF-14 (λ -try-S^r).

It was shown that this preparation tangibly suppresses the frequency of E. coli lysogenization and oppresses synthesis of the induced λ -exonuclease.

The results concerning activity of this enzyme definitely correlate with the data related to the influence of finam on the lysogenization process of the same bacterial strain.

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REEL/FRAME
19781816

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USSR

UDC 576.8

RYBAKOV, N. I., GUBERNIYEV, M. A., CHIMIROV, O. B., DROZHENNIKOV, V. A., KOLOBOV, A. V., ANISKIN, Ye. D., and KOZLOV, V. A., Institute of Experimental Biology, Academy of Medical Sciences USSR

"The Effect of Some Radioprotectors on Processes Associated With Lysogenization of Bacteria and Induction of Intracellular λ -Exonuclease"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 1, 1970, pp 38-42

Abstract: The radioprotector finam (an aminothiols) inhibited the frequency of lysogenization of E. coli SF-14 (λ -try⁻SF) by λ -phage and inhibited the synthesis of induced λ -exonuclease at different times after infection. The effect was most pronounced in early stages of infection. After thirty minutes the inhibiting effect of the radioprotector on λ -exonuclease activity decreased sharply. Results of determination of the activity of λ -exonuclease are consistent with data on the effect of finam on lysogenization of the same bacterial strain. This suggests that enzyme systems play a part in the development of lysogenicity in bacterial cells. These enzymes may be DNases of the endonuclease type.

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USSR

GUBERNSKIY, Yu. D. and ISMAILOVA, D. I., Candidate of Medical Sciences Institute of General and Communal Hygiene, Academy of Sciences USSR

"The Effect of Radiant Heating and Cooling on the Immunobiological Potential of the Body"

Tashkent, Meditsinskiy Zhurnal Uzoekistana, No 5, 1971, pp 29-33

Abstract: Several groups of mice were exposed to infrared heating (intensity of radiation $0.1 \text{ cal/cm}^2/\text{min}$) or radiant cooling (air temperature 24 to 25°C and body surface temperature of 12 to 14°C) 8 hours daily for 40 days. The animals' immunobiological potential was then assessed from the phagocytic activity of neutrophils and the survival rate after inoculation with a virulent culture of *S. typhimurium*. In another series of experiments, the animals were exposed to infrared heating or radiant cooling both before and after infection to determine the effect on an acute infectious process. The results showed that phagocytosis was more intense and the survival rate much higher in experimental mice than in controls, indicating that the two factors increased the animals' resistance to disease. Exposure to radiant heating did not have a therapeutic effect on the animals when in a febrile state and their survival rate was the same as controls. Radiant cooling, however, was beneficial. Whereas all the control mice were dead by day 8 of the disease, 7.5% of the experimental animals survived to day 11.

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1/2 011 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--EXTRACTION OF GOLD FROM GRAVITATION CONCENTRATES BY A
HYDROCHLORINATION METHOD -U-
AUTHOR-(02)-ZYRYANOV, M.N., GUBEIDULINA, A.V.
COUNTRY OF INFO--USSR
SOURCE--TSVET. METAL. 1970, 43(3), 74-6
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MATERIALS
TOPIC TAGS--GOLD, ORE BENEFICIATION, CHLORINATION, EXTRACTIVE METALLURGY,
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CIRC ACCESSION NO--AP0126946

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN HYDROCHLORINATION, IT IS EXPEDIENT TO GIVE THE RAW MATERIAL A PRELIMINARY TREATMENT WHICH DOES NOT CONTAIN A POSSIBLE SOURCE OF A REDUCER OF FE PRIME2POSITIVE TYPE. WITHOUT SUCH TREATMENT, ONLY PURE QUARTZ GRAVITATION CONCS. CONTG. LESS THAN OR EQUALS TO 1.0PERCENT SULFIDES CAN BE TREATED. GRAVITATIONAL CONCS. CONTG. SULFIDES (PYRITE, ARSENOPYRITE) IN AMTS. GREATER THAN 1.0PERCENT CAN BE HYDROCHLORINATED WITHOUT PRELIMINARY TREATMENT. ONE OF THE SIMPLEST METHODS OF PRELIMINARY TREATMENT IS OXIDIZING ROASTING, WHICH CONVERTS THE SULFIDES TO OXIDES WITH HIGHER VALENCES, WHICH ARE PRACTICALLY INERT TO GASEOUS CL IN THE AQ. MEDIUM. EXTN. OF AU FROM THE CINDERS OF OXIDIZING ROASTED GRAVITATIONAL CONCS. WAS IN MOST CASES 98-98.5PERCENT. THE HIGHERST EXTN. WAS OBTAINED AT RELATIVELY SHORT TIMES (SIMILAR TO 2 HR) AND WITH LEAST CONSUMPTION OF CL. THREE VARIATIONS OF EXTN. OF AU FROM SOLN. WERE TRIED: REDN. BY FE PRIME2POSITIVE, SORPTION ON PITCH, AND EXTN. BY TRIOCTYLAMINE. EXTN. AND REDN. BY FECL SUB2 GAVE PRACTICALLY COMPLETE RECOVERY OF AU FROM THE SOLN. THE RESIDUAL CONC. OF AU WAS 0.09 MG-L. WHEN THE INITIAL CONC. WAS 2000 AND 50 MG-L. SORPTION ON PITCH GAVE SOMEWHAT BETTER RESUTLS.

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USSR

UDC: 8.74

BARMINSKIY, K. O., GUBIN, A. I., and DUSHEKIN, B. N.

"Operations on Arrays and Their Programmed Realization"

Tr. NII upravl. mashin i sistem (Transactions of the Scientific Research Institute of Machine and System Control) No 6, 1972, pp 211-217 (from RZh--Matematika, No 7, 1972, Abstract No 7V603)

Translation: One possible approach to the construction of standard programs for processing large array of documents preserved on magnetic tape is considered. It should be noted that, in addition to preparing and correcting the array as well as transmitting the information for printout, the stage of internal processing of the array is typical of many problems solved in automatic control systems, particularly of computing-planning problems.

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USSR

UDC 8.74

BARMINSKIY, K. O., ~~GUBLIN, A. I.~~, DUSHKIN, B. M.

"Operation on Arrays and Their Program Execution"

Tr. NII uprav. mashin i sistem (Works of the Scientific Research Institute of Control Machines and Systems), 1972, vyp. 6, pp 211-217 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V603)

Translation: A study was made of one of the possible approaches to the construction of standard programs for processing large files of documents stored on magnetic tape. It must be noted that along with the preparation and correction of the files and also printing the data out, the step of internal processing of the files is standard for many problems solved in automatic control systems, in particular, for accounting and planning problems.

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USSR

UDC 621.791.3:669.22.669.295

RYL'NIKOV, V. S., Engineer, GUBIN, A. I., Candidate of Technical Sciences

"Brazing of Titanium With Silver Brazing Alloys"

Moscow, Svarochnoye Proizvodstvo, No 1, Jan 70, pp 32-34

Abstract: The microstructure of titanium specimen brazed with silver brazing alloys was studied by means of metallographic and X-ray analysis. It was found that in the brazing of VT1 and OT4 titanium alloys with pure silver it is practically impossible to obtain a constant value of the strength of brazed joints. The obtained values of strength varied from 20 to 40 kg/mm², due to the formation of layers of brittle TiAg intermetallic compound. Strength values of joints brazed with silver-tin-copper brazing alloys were also somewhat scattered. However, the nature of the interaction between the liquid brazing alloy and titanium is different. For silver brazing alloys containing over 0.3 percent copper and over 0.1 percent tin, initially, Ti₂Cu and Ti₃Cu intermetallic compounds form at the contact

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RYL'NIKOV, V. S., et al., Svarochnoye Proizvodstvo, No 1, Jan 70, pp 32-34

surface between titanium and the brazing alloy. Subsequently they dissolve in the brazing alloy and form a layer of TiAg intermetallic compound alloyed with copper or tin, respectively. The strongest joints were obtained by brazing with Ag+2--8 percent Cu alloy. Joints, brazed with silver-tin brazing alloys were the weakest (tensile strength up to 4 kg/mm²). Holding time in the brazing furnace, which depends on the composition of the brazing alloy, also affects the strength of the brazed joint.

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1/2 024 UNCLASSIFIED PROCESSING DATE--11DEC70
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AUTHOR--(02)-GUBIN, A.I., DOBKINA, YE.N.

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